BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of:

Amendment of Part 90 of the Commission's Rules	WP Docket 07-100
Implementing a nationwide Broadband Interoperable Public Safety Network in the 700 MHz Band	PS Docket 06-229
Service Rules for the 698-746, 747-762 and 777-792 MHZ bands	WT Docket 06-150

Comments of the Grundy County Emergency Telephone System Board

The Grundy County Emergency Telephone System Board (ETSB) respectfully files these comments in response to the Commission's Fifth Further Notice of Proposed Rulemaking concerning proposed changes to rules in the public safety band from 4940-4990 MHz. In these comments, the ETSB provides its perspective of the issues brought forth for comments by the Commission regarding the use of the 4940-4990 MHz band and encourages the Commission to promote the development of a baseline national plan for 4940-4990 MHz with allowance for local and regional user needs input from FCC recognized regional planning committees (RPC's) established in each region that represent and support input to specific user needs in each region.

Subsequently, the ETSB provides comments on the development of a national plan for 4940-4990 MHz for use by certified frequency coordinators and regional planning personnel along with the necessary elements that such a national plan should contain.

Grundy County Emergency Telephone System Board

The Grundy County System Telephone Board (ETSB) provides various shared public safety communication systems and networks in Grundy County, Illinois. These range from conventional, trunked, large microwave network, enhanced 911 and consolidated dispatch.

Fourth Report and Order

The ETSB supports the Commission restoring certified frequency coordination of the 4940-4990 MHz band within its rules. However, the ETSB supports additional measures be taken by the Commission, consistent with the Further Notice of Proposed Rulemaking, to ensure successful implementation of the 4940-4990 MHz band by public safety and improve the functionality available today to users in the current uncoordinated, public safety shared environment of 4940-4990 MHz.

Background

In its Fifth Further Notice of Proposed Rulemaking in this proceeding, the Commission seeks comment on a number of issues associated with the 4940-4990 MHz band, including its current usage, existing band plan and user eligibility and other issues. The ETSB provides herein comments on the following proposed changes and questions proposed by the Commission in the Further Notice of Proposed Rulemaking

III. Fifth Further Notice of Proposed Rulemaking

Paragraph 17

The Grundy County Emergency Telephone System Board (ETSB) currently utilizes 4.9 GHz spectrum for point-to-point and point-to-multi-point connections to connect and supply local Public Safety Answering Points (PSAPs), fire departments and law enforcement agencies with mission critical voice and data. We have recently added and have planned a number of point-to-multipoint sites connecting a number of new agencies into our PSAP consolidation project. Much of our main traffic is carried on traditional terrestrial microwave in the 6-38GHz public safety band. 4.9GHz is leveraged to fill voids where point-to-multipoint is needed, tower loading prohibits the installation of Class A antennas for point-to-point and price point is an issue for our agencies requiring connectivity due to limited annual budgets.

A. Coordination

Paragraph 20

As an Association of Public Safety Communication Officials (APCO) local advisor in Illinois I am aware of multiple entities that have applied strictly for a jurisdictional license and have implemented multiple point-to-point permanent links. There are entities that interpret the rules interpret fixed temporary to mean “the ability to easily move” not that is has to be moved within a year or licensed to reflect fixed operation. Requiring coordination for licensing would allow others to see what spectrum is available and plan appropriately when creating link budgets. Currently choosing spectrum relies solely on spectrum analyzers built into the 4.9 equipment and an educated guess. As a large user of public safety microwave in the 6-38 GHz spectrum, I find the coordination a benefit and not cost prohibitive as to the protection it provides through interference calculations and Prior Coordination Notifications (PCN). Using PCN, FCC part 101.103 process would allow for incumbent licensees to be notified of a pending application, provide time to review application submitted to determine operational overlap and if there is a possibility for interference.

2. Registration and database approach

Paragraph 25

The ETSB supports the Commission in providing for a registration procedure administered by the National Regional Planning Council (NRPC) and local 700 MHz regional planning committees (RPCs). Unlike traditional terrestrial microwave, deployment flexibility in 4.9 GHz requires knowledge of local operations in addition to coordination. Local RPCs an understanding of systems deployed within their region. RPC members routinely network with local users and actively participate on state/local interoperability committees as well.

Paragraph 27

The ETSB supports the NPSTC and APCO proposal for populating the database with existing licensee technical parameters. Without this information future coordination would only be a best effort. The ETSB’s opinion is this should look similar to a public safety MW service code license. Transmitter locations listed, path information including far end transceiver location for point-to-point and point-to-multipoint configurations.

Paragraph 28

Having just deployed 4.9 GHz equipment and preparing to license them as fixed points I have found it difficult to obtain information regarding technical parameters. Unlike my experience with terrestrial microwave in the 6-38 GHz link budget tools are very rudimentary as provided by equipment manufactures. Even finding technical information on products has been difficult pre and post-sale.

It is hard to define technical information to require due to the variety of use of the 4.9 GHz band. For point-to-point and multi-pint my feelings would be to require the same information as a Part 101 license. Require fixed mesh and hotspot locations to license as a fixed location. For nomadic mesh and hotspots including their respective subscribers to include transmitter technical information with an area of operation listed much like a Part 90 mobile and utilize different service codes for each type of deployment in the band.

Paragraph 29

After the last local APCO chapter meeting in Illinois it was discovered that many 4.9 GHz licensee have deployed point-to-point networks under the umbrella of a jurisdictional license. They were unaware that fixed stations require additional licensing. I feel requiring existing licensees to correctly license their respective operation is not burdensome and is something they are already require to comply with.   Again without current information contained in a database any coordination would be a best effort in relation to existing licensees and creates a potential for interference.

Paragraph 31

It is my understanding that CAPRAD is capable of taking on the 4.9 GHz database however; I am concerned with its future. I also understand that the platform CAPRAD is running on is aged and really needs to be migrated to a new platform. CAPRAD also requires continual financial support for maintenance, updates as required and provide ongoing technical support. Currently the National Institute of Justice has been providing grant funding for CAPRAD. Will the funding continue and if so is there enough funding to make the enhancements required for 4.9 GHz along with sustaining it into the future?

Paragraph 32

For proper coordination and database support applicants should have to contribute a nominal fee to support the process and database

Regional plan approach, Section 90.1211

Paragraph 39

Since there is no guarantee that all RPCs will create a plan or want to be involved with local coordination a national plan should be developed covering minimum standards. This way there is guidance for licensing throughout the nation and allowances for regions to supplement the national minimum standards region-specific guidelines.

Paragraph 41

In 2004 there were a number of RPCs that wrote 4.9 GHz plans. A window of twelve months I feel would be more than adequate for those Regions that have completed a plan to revisit them for changes and others to create a plan. For Regions that wish not to participate the NRPC should draft a national plan with minimum standards that applicants can use in those regions when filing for coordination. This would help limit any adjacent region issues as well as provide a common plan foundation.

Expanded Eligibility and Alternate Licensing

Paragraph 45

I agree with a single jurisdictional licensee. This is the approach my agency utilizes for licensing in addition to consolidating operations with all disciplines and local government agencies. I also understand that this may be difficult in other areas that do not have a robust communications governance structure. I do not see how reducing the number of licensees would simplify RPC coordination.

Paragraph 46

All permanent fixed links should be considered primary regardless of whether they support broadband or narrowband. In either application it is supporting mission critical public safety voice and/or data communications. What should be regulated is the bandwidth assigned to support the requested operation. What measure would be used to determine what amount of bandwidth would be assigned? I compare this to RPC channel loading for voice channels when reviewing 700 and 800 MHz applications. A guideline would be required to assign bandwidth based on the applicants request for spectrum.

Complement to 700 MHz Broadband Networks

Paragraph 48

In regards to cost of equipment, 4.9 GHz equipment is generally less expensive than traditional terrestrial microwave in other public safety bands. 4.9 GHz equipment however, in my opinion is more off-the-shelf equipment marketed toward public safety and commercial users since most manufacturers include 2.4 and 5.8 GHz band as well in the radio. A typical installation utilizes Category 5 cable with power over Ethernet vs. coax or elliptical wave guide which reduces installation hardware costs. Thus most 4.9

GHz configurations are more economical to purchase and installation than traditional terrestrial microwave. The ETSB also feels 4.9 GHz shouldn't solely be identified for use only to support 700 MHz broadband.

Paragraph 49

While paragraph 48 identified the cost benefit, most backhaul antenna configurations in 4.9 GHz also provide reduced physical tower loading. Public safety can leverage 4.9 GHz to provided backhaul for SIP connectivity of Next Generation 911 Emergency Services IP Network (ESInet), inter/intranet data, hotspot and video. Utilizing the flexibility of equipment configurations in 4.9 GHz communication centers, emergency operation centers and local public safety facilities can all join into a common wide area network to support day-to-day operability and incident interoperability unlike other spectrum bands that are shared with commercial users.

I disagree with MSI suggestion to mandate use of 4.9 GHz for public safety backhaul instead of 6-38GHz. 4.9 GHz provides a good option for last mile backhaul, applications where tower loading is an issue and for point-to-multipoint applications; 6-38 GHz provides a much more robust backhaul and in addition provides greater backhaul bandwidths.

Paragraph 51

The sharing rule is sufficient for FirstNet use of 4.9 GHz. 4.9 GHz should be the last band to consider when deploying the FirstNet network. Once other options have been exhausted 4.9 GHz should be considered. Since this will be a public / private partnership to support public safety and possibly others, FirstNet should be required to enter into local sharing agreements for use of the 4.9 GHz spectrum when incorporating it into the nationwide broadband network.

D. Channel Plan Adjustment

Paragraph 52

Much of the 4.9 GHz equipment is packaged for sales to private and public safety buyers supporting not only the 4.9 GHz but the 5.8 and 2.4 GHz in one product. I do not feel manufacturers will want to change software for legacy equipment to match channel band plan changes made by the FCC. Current licensees should be grandfathered if the band plan is adjusted. Current and future equipment manufactured would be limited to the adjusted band plan though FCC type acceptance.

Paragraph 55

A band plan for 4.9 GHz should be part of a national plan. The national plan needs to allow for local RPCs to include region specific requirements as seen fit for their respective region.

Paragraph 59

Polarity can be used to increase density at a site or increase throughput over a point-to-point or point-to-multi-point link. Assigning polarity by type-of-use would limit applicants and or licensees ability to leverage spectrum to its most effective and efficient use.

Paragraph 62

The ETSB concurs with this paragraph.

3. Standards

Paragraph 64

Since 2003 equipment available to public safety has been limited in the area of access points (AP) and user devices. Backhaul equipment has been the prevalent equipment available. An inter/intranet connection provides the software interoperability we require. Grundy County has not nor plans on utilizing ad hoc networks for Interoperability.

Paragraph 65

Today there are many manufacturers supplying 4.9 GHz equipment. An issue I have run across in Grundy County was a commercial entity purchasing overseas equipment that has an open band plan and deploying hotspots in their facilities on 4.9 GHz. Anyone can purchase imported equipment that likely is not type accepted by the FCC vs. public safety's traditional purchasing methods.

Traditional IEEE 802.11 access points (AP) operating on 4.9 GHz are limited in availability and cost. Most APs available require additional hardware to support the network operation and possible required encryption. My agency looks forward to equipment available in 4.9 GHz based on the IEEE 802.11 standard. As stated above equipment is available, however limited in availability and in a reliable hardware platform.

4. Deployment reports

Paragraph 68

I understand the Commission's interest in obtaining deployment reports. As a 4.9 GHz licensee I feel it would be burdensome to have to file deployment reports indefinitely even if it is only on an annual basis. Reporting for a new license grant quarterly until a completed construction notice (Schedule K) is filed. Then follow up with a final construction / use report one year after the Schedule K was filed reflecting the operation configuration of the license. All licensees should have to file deployment reports regardless of use. Like the construction notice, if a notice has not been filed within a year of license grant the license has a sunset termination. 4.9 GHz deployment reports should follow a similar methodology to ensure reporting.

Reporting should not be just a narrative but should also include multiple choice and fill in the blank items that would be useful for the commission to collect pertinent information for their needs and coordination. These reports should also be available for review on the coordination database and ULS as historical documentation.

Conclusion

The Grundy County Emergency Telephone System Board thanks the Commission for its initiative intended to improve operations in the 4940-4990 MHz band for public safety. We look forward to working with the public safety community and the Commission on developing guidelines and policies that lead to the most effective implementation of the 4940-4990 MHz band.

Respectfully,

Chris Kindelspire, Director Electronic Operations
Grundy County Emergency Telephone System Board

October 27, 2012